



Shire of Morawa

Trails Project - Stage 2

Economic Business Case & Trails Staging Plan

August 2019

TABLE OF CONTENTS

1	INTRODUCTION AND PROJECT OBJECTIVES.....	1
2	PROJECT CONTEXT.....	2
2.1	Background.....	2
2.2	Proposed Site.....	3
2.3	WA Industry Stakeholders.....	3
3	LITERATURE REVIEW.....	5
3.1	Potential Trail Users and Target Markets.....	5
3.2	Existing Trail Networks.....	6
3.3	Morawa Opportunity Report.....	9
3.4	Flora and Fauna Research.....	10
4	CONSULTATION.....	11
5	TRAILS STAGING PLAN.....	16
5.1	Trail Development Process.....	16
5.2	Staging Plan.....	17
5.3	Stage One Recommendations.....	19
5.4	Future Staging.....	21
6	ECONOMIC BUSINESS CASE.....	23
6.1	Global and Australian Experience.....	23
6.2	Financial Model.....	25
6.3	Land Tenure and Costs.....	25
6.4	Capital Costs.....	25
6.5	Annual Operating Costs.....	26
6.6	Annual Operating Revenue.....	26

6.7	Capital and Operating Costs – Stages 2 and 3	27
6.8	Financial Modelling.....	27
6.9	Socio-Economic Impact Assessment	28
7	SUMMARY AND CONCLUSIONS	35
8	Appendix.....	38
8.1	Stage 1 Trail Network	38
8.2	Sample Drawings	2
8.3	Sample Sign Styles	6
8.4	IMBA Trail Classifications.....	0
8.5	Glossary	1

1 INTRODUCTION AND PROJECT OBJECTIVES

Hudson Howells, in association with TrailScapes Pty Ltd, has been engaged by the Shire of Morawa to prepare an Economic Business Case and Trails Staging Plan for mountain biking in the Shire incorporating:

- Context and setting (ref. Morawa Mountain Bike Opportunity Report)
- Review of community needs
- Review of potential trail users and “target markets”
- Review of the existing trail network (Including an ‘audit’ of all existing trails)
- Review of existing flora research
- Community consultation (on-site) – summary and outcomes
- Description of a trails staging plan for construction of up to 100km of trails with map overview, timeframes and sample drawings (trail sections, sign styles, etc.)
- A stage 1 recommendation
- Economic assessment/cost benefit analysis of trail network including 10 year projected income and expenditure as well the economic and social impact of the project on the Shire Morawa and the state of Western Australia as it relates to the following (but not limited to):
 - Tourism – projected visitation, profile of visitors, events, economic generation through tourism
 - Health – related health savings due to increase in physical activity, wellbeing advantages
 - Industry – diversification of, and increase in, businesses
 - Social – community connectivity, sense of place
- Overview of marketing and promotion options
- Overview of potential funding sources

The Morawa Region, and in particular the Koolanooka Hills and Springs area, has an opportunity to develop as a mountain bike destination with a high profile trail network and informal riding areas.

In many parts of the world mountain biking trail networks have become significant visitor destinations which attract international visitors and contribute to economic sustainability and recreational opportunities for local and regional communities. Nationally, cycle tourism is valued at \$2.4 billion to the national economy each year. The Shire of Morawa has recognised the importance of this opportunity, and its future potential to contribute to the development of Morawa’s socio economic development. The Shire has committed resources to investigate the potential for an international level mountain biking destination that they would like to see become an important driver of regional tourism and economic sustainability across the broader region.

This Economic Business Case and Staging Plan provide the framework for building the trails destination over time through an integrated approach and collaboration between government agencies, the Shire, the tourism industry, mountain biking and broader cycling organisations and the community.

2 PROJECT CONTEXT

2.1 Background

In August 2018 the Shire of Morawa (Shire) commenced the Morawa Mountain Bike Opportunity Report (Stage 1) to determine the feasibility of developing trails within the Shire.

An Opportunity Report prepared by consultants Common Ground was considered by Council at its September 2018 Ordinary Council Meeting with a view to progressing to the next phase of developing the Morawa Trails Master Plan.

The Shire is committed to progressing the Trails Project to a point where robust information has been prepared around the economic opportunity and an overview of trail staging is prepared.

The opportunity arises from mountain biking becoming one of the world's fastest growing recreational, sport and tourism activities and Western Australia following this global trend (WestCycle, 2015) as supported by the following statistics¹:

- Almost 120,000 mountain bikes are purchased every year in Western Australia.
- 19% of Western Australians own a mountain bike.
- Mountain bikers are seeking places to ride in increasing numbers.
- Over 50 competitive mountain bike events take place in Western Australia each year, with 1,200 riders taking part in the Cape to Cape and more than 1,000 people riding the Dwellingup 100.

The opportunity for Morawa is to plan and develop its own mountain bike trail network which could include other trails attractive for regional tourism including, for example:

- Walking trails.
- Wildflower trails.
- Mine trails.
- Aboriginal heritage trails.

It is anticipated from the Opportunity Report that the mountain bike trail could be developed in stages with a first stage comprising 20 to 30 kilometres of a possible 100 kilometres of trails and that such a development could have significant regional and State socio economic benefits.

¹ Source: Western Australian Government Mountain Bike Management Guidelines

2.2 Proposed Site

The proposed site for the mountain bike trails identified in the Opportunity Report is in the Koolanooka Hills approximately 20 kilometres east of Morawa as shown on the following map.

**Map 1
Proposed Site**



(Source: Common Ground, Morawa Mountain Bike Opportunity Report, 2018)

An Iron Ore mine was opened in the Koolanooka Hills in 1965 along with an associated railway spur line, powerhouse, port facilities at Geraldton and housing for workers in Morawa. The mine, currently not operating, was the first iron ore exporting mine in Western Australia.

The mine was reopened by Sinosteel Midwest Corporation (SMC) in April 2010 as part of its Koolanooka and Blue Hills (Mungada) Direct Shipping Iron Ore (DSO) Project but operations ceased mid-2013, when the company focussed on its nearby Blue Hills (Karara) mine. The disused mine site does however, represent an historic tourism attraction and does have a picnic and viewing area (currently closed).

2.3 WA Industry Stakeholders

The mountain bike riding and industry is supported in Western Australia by the following government agencies and industry associations²:

- Department of Sport & Recreation - develops and implements government policy and initiatives in sport and recreation.
- Department of Parks and Wildlife - works with the community to ensure the nature

² Source: Western Australian Government Mountain Bike Management Guidelines

of Western Australia is conserved.

- WestCycle - the peak body for cycling in Western Australia embracing all cycling disciplines. Acts as the interface between the Western Australian cycling community and government.
- West Australian Mountain Bike Association (Member of WestCycle).

The following diagram shows the respective roles of State, regional and local governments in the mountain bike industry.

**Diagram 1
Government Roles**



(Source: Western Australian Mountain Bike Strategy 2015 - 2020)

3 LITERATURE REVIEW

3.1 Potential Trail Users and Target Markets

The following table contains details on the range of mountain bike trail types, their characteristics and the potential trail users/markets.

Table 1
Mountain Bike Types and Potential Markets

TYPE	CHARACTERISTICS	MARKET
Cross Country (XC)	Single Track – Up/Down Natural Trails	Large/Competitive Events Light Weight Bikes
Flow (FL)	Single Track – Banked turns, Jumps, predictable surfaces.	Large/Competitive Events - Medium Weight Bikes Duel Suspension Bikes
All Mountain (AM)	Single Track – Technical Descents Non-Technical Climbs	Timed Competitive Events Light – Medium Weight Bikes
Gravity / Enduro (GE)	Steep, Fast, Technical descents	Large/Competitive Events - Medium to Long Travel Duel Suspension Bikes
Downhill (DH)	Descent Only Trails Speed & Technical Challenge	Timed Downhill Racing Long Travel Duel Suspension Bikes
Freeride (FR)	Descent Focussed Trails Build & Natural Terrain	More Experienced Market Skills Competition
Park (PK)	Manoeuvres/Skills Development Jump/Pump Tracks	Wide Market Including Youth Strength Short Travel Suspension
Touring (TO)	Long Distance/Lower Grade Focus on Destination	Limited Market Robust Limited Suspension Bikes

The following table contains more detailed information on potential mountain bike trail users and market size.

Table 2
Mountain Bike Users and Potential Market Size

USER	CHARACTERISTICS	MARKET SIZE
Leisure	Easy Trails White/Green Grades	Significant
Enthusiast	Moderate Trails Green/Blue Trails	Significant
Sport	Green – Double Black (Extreme)	Small but influential
Independent	White – Black Trails	Small
Gravity	Blue – Double Black Trails	Small but growing rapidly

See appendix for MTB Trail Classification definitions.

3.2 Existing Trail Networks

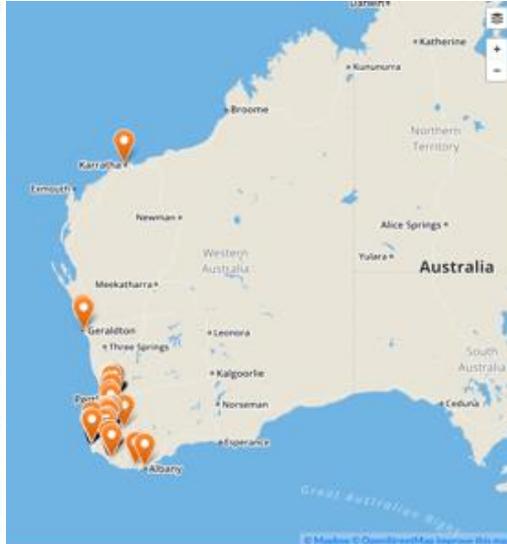
Hudson Howells and TrailScapes have conducted a desk top audit of the current mountain bike trail offerings in Western Australia as well as potential trail projects.

The main finding is that other than minor trails in Geraldton and Karratha, there are no significant Mountain Bike Trails north of Perth as shown in the following maps. This represents a significant opportunity for Morawa to establish the Koolanooka Hills area as one of the best mountain bike destinations north of Perth.

**Map 2
Existing Trails**



There is a total of 519 known trails of all descriptions in Western Australia.

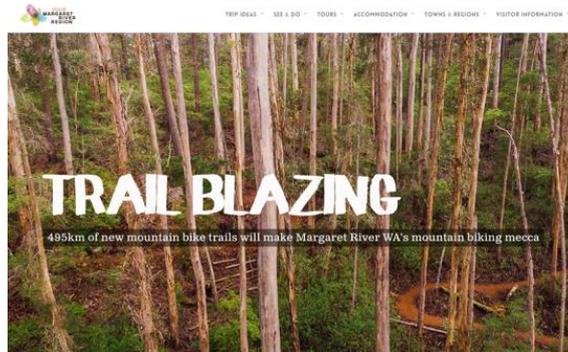


There are 129 known Mountain Bike trails in Western Australia including Karratha and Geraldton.

Following are examples of current and planned mountain bike trails to the south of Perth along with the WA Cycle Tourism Strategy.



Current and future MTB Trail development is focussed in Perth & Peel and the South West.



495km of Mountain Bike trail is planned for Margaret River.



The WA Cycle Tourism Strategy identifies a number of key attributes to cycle tourism that Morawa supports.

Western Australia is a vast and diverse landscape with the potential to develop a unique and sophisticated cycle tourism offering. With a mild Mediterranean climate in the south of the state, and a temperate dry season in the north the climate is suited to year-round riding. The landscape is dominated by rolling hills and beautiful scenery which caters for a broader cycle tourism market, and provides enjoyable riding and touring for the novice through to the expert market. Cycle tourism is an activity which embraces local landscapes and cultures, and supports low impact access to those landscapes. There is also a comprehensive offering of tourism attractions and experiences which can be leveraged to support cycle tourism activities. Western Australia is a unique tourism destination, and innovative and creative strategies can be used to turn barriers into very strong and unique propositions for the cycle tourism market. Some of these reverted barriers include;

1. Remoteness

- Well suited to the interests of the more intrepid international markets
- Provides a new offering for those who have experienced all that the east coast offers and are looking for something new
- Proximity to emerging Asian markets
- Unique remote landscape, especially in north west (appeals to the high adventure European market, particularly the German market)

2. Underdeveloped Offering

- Industry development can be structured around learnings of the more developed cycle tourism destinations as to what works and what doesn't
- Marketing can be targeted to emerging segments (such as bike packing, gravel, eBikes) which are most suited to the product offering and provide the highest return
- Strategic development of trail destinations in iconic landscapes, rather than having to work with community led trails which may not be located in suitable tourism destinations
- Ability to develop supporting industry and infrastructure (ie cycle friendly businesses/ locations) in conjunction and with consideration to the development of the offering or experience
- Faster and easier adoption of new technologies

When assessed under the areas of focus markets, destination development, infrastructure, marketing, events there is a wide scope of opportunities for Western Australia to leverage.

The analysis and audit of existing trails suggests a large gap in the provision of MTB trails north of Perth which Morawa has the potential to fill. Morawa contains many of the key attributes identified in the Western Australian Cycle Tourism Strategy that sets it apart from other MTB destinations.

3.3 Morawa Opportunity Report

Hudson Howells and TrailScapes have reviewed the Morawa Mountain Bike Opportunity Report, completed by Common Ground Trails in August 2018. We generally agree with the content of the report in particularly the Site Analysis, Opportunities & Barriers and Recommendations Sections. The following key findings are important for this current business case and staging plan:

- The Koolanooka Hills span an area of over 20km², which is more than substantial for a large mountain bike network; up to 100km could be comfortably developed if desired. The trails should be designed and developed in stages, allowing for growth throughout the ranges, and surrounding area.
- Koolanooka Hills has a significant potential to support a large range of iconic Cross Country and All Mountain trails. There are also opportunities for short gravity sections.
- A family friendly, low undulation, short loop could be designed around the base of the hills departing and arriving at Koolanooka Springs (approx. 5km). There is further opportunity to develop a longer loop out to the salt plains (approx. 10km). A walking trail loop could also be considered to link in to the existing look out to the mine site, which could encompass areas with known wildflowers prominence.
- Interpretational signage could be developed and installed which could cover a number of site-specific themes including flora and fauna, aboriginal history and traditions (gnamma holes and bush tucker), and the mining history of the area.

TrailScapes believes that some of the costings supplied in the Opportunity Report are higher than current market rates. Detailed design need not be an overly complicated process, it should build on the Concept Design phase (or incorporate it) and be of a standard suitable for tender to Trail Construction professionals only, not Civil Contractors. The level of detailed design required for the actual trails is lower than that of a typical civil construction project, however any built structures (shelters, boardwalks etc.) will still require typical details and engineering.

The tender and evaluation criteria for design and construction services should ensure that only specialist and experienced trail planning and construction companies are eligible for the work.

The trail construction costs in the current market and considering the site and soil types would be @ \$28+ per metre rate. Trailhead and sign costs are potentially above current market rates depending on the final design.

A Brand Identity Plan is recommended which is not mentioned in the Opportunity Report. This is a critical element of a successful and high-profile Trail Town and Trail Network. TrailScapes recommends a tangible connection with the Koolanooka Trail network to promote the destination from Morawa and provide locals and tourists with a valuable facility. See Stage 1 recommendations for more details.

The Koolanooka Springs Camping area historically caters for the Wildflower appreciation tourists. While this area should also act a trailhead for both walker and riders, the main activity should remain camping, walking and wildflower appreciation. We propose improving and containing the camping area to manage the expanding impacts on the surrounding environment.

It is recommended that a new trailhead on the western side of the range and closer to Morawa will better accommodate riders and be more 'adventure' focussed.

3.4 Flora and Fauna Research

Previously completed Flora and Fauna research and spatial data was not available at the time of report development. This information will be more relevant and necessary during the detailed design phase when actual on-ground trail alignments are being determined. TrailScapes is confident that trail development can be planned and delivered in a manner to both protect and enhance the local ecology.

4 CONSULTATION

Community and stakeholder consultation, including a Shire presentation, was undertaken in Morawa during June 2019. A Consultation Template was prepared and approved by the Shire before the consultation commenced. In addition to the Shire presentation, community and stakeholder consultation comprised:

- Two community workshops.
- One student workshop (local schools).
- Availability of the template on Survey Monkey for those unable to attend the consultation sessions.

The consultation focussed on the opportunities and threats associated with establishing mountain bike trails in the Morawa region and specifically the Koolanooka Hills. The following table summarises the workshops feedback:

**Table 3
Workshops Summary**

	Opportunities	Threats
Economic	<ul style="list-style-type: none"> • Increase in local jobs • Establish a bike shop – sales, hire, repairs, clothing etc. • Trail construction jobs • Camping, caravan and B&B accommodation • Establish a town/site bus shuttle service • Food business/bakery • Glamping campsite • Training of local people for associated jobs • Promote to groups – scouts, etc. • Video production • Many other associated tourism activities – Wildflowers, etc. • Convert Ausco camp to tourist accommodation • Increased Government funding for roads • Enhances/extends existing tourism season • Pop-up vans 	<ul style="list-style-type: none"> • People wont travel to the region • Glamping competition with town accommodation • Increased road usage – maintenance and accidents

	Opportunities	Threats
Social	<ul style="list-style-type: none"> • Bring together the local community • Improved health & fitness • Volunteering opportunities • Protection of cultural spaces • More regional health professionals • Establishment of social enterprises • Retention of young people in the town • Engagement of at risk youth • Intergenerational – family bonding • New mountain bike clubs • Increased population in Morawa • Increased land and property values 	<ul style="list-style-type: none"> • Temperature in summer • Possibility of injuries • Threats to Aboriginal heritage and burial sites
Environmental	<ul style="list-style-type: none"> • Integration with existing environment • Supply rubbish bins • Keep tracks away from animal areas • Minimise native vegetation clearance • Integrate with the old mine site • Eco-tourism opportunities 	<ul style="list-style-type: none"> • Site degradation by visitors • Motor bike damage • Scare away wildlife • Increased rubbish • Plant destruction • Destroy native bushland • Disturb animal access to food and water • Mine site may need rehabilitation
Other	<ul style="list-style-type: none"> • Need to obtain good community support • Stage the project – build slowly from small events • Offer opportunities for all standard of riders • Link the trails to marathon event • Outback experience – different to Perth 	

In addition to the above, 5 responses were received via the Survey Monkey Consultation Template and are summarised verbatim below by question.

1. What opportunities and constraints are there for establishing a Mountain Bike and other trails on the Koolanooka Hills?

Opportunities	Constraints
<ul style="list-style-type: none"> • Bringing financial income to town - Will hopefully attract tourists to the site and in turn money to be spent in local businesses Promotes Morawa - Gets Morawa on the map by promoting people to come. Encouraging outdoor activity - Get people out of the house and onto their bikes. Employment opportunities - Construction and maintenance of the trails • Tourism • Zero • Attracting tourism and business into town 	<ul style="list-style-type: none"> • Financial constraints. - Would be a significant amount of money to spend to get the project running. Not sure of the potential returns versus the money needed upfront/ongoing maintenance. Different environment to the case studies in Derby; Tasmania, Margaret River, Kalamunda. - From watching the video on the Shire webpage, is hard to draw comparisons to the other sites in terms of the environment/scenery. Trespass/ Damage to property - Could possibly be issues with local farms Wild dog population. - There is a wild dog population in the Koolanooka Hills and there is the possibility of interaction with people. Will need approvals to build / clear on the site which is Crown Land and an active mine site. • Cost Impact on local farmers (trespassing etc) Impact on local environment • Climate/ terrain • Will clash with wildflower season

2. What strengths and weaknesses do the Koolanooka Hills have for establishing a Mountain Bike and other trails?

Opportunities	Constraints
<ul style="list-style-type: none"> • Is a high point of the landscape - Good views The landscape would be appropriate for a trail. • Tourism • Great location - historical sites 	<ul style="list-style-type: none"> • Would be pleasant weather for only a few months of the year. Being Crown Land and currently part of the site being part of an active mine lease, would need approval for project to proceed • Weather - can only be used for a short time of the year No local bike club - how interested are the locals & what benefit is there for them? Wild dog issues • Remoteness / facilities • Damage to flora i.e. wildflowers

3. What major social, economic, education, environmental and health benefits could be associated with Mountain Bike and other trails in the Koolanooka Hills?

Major Socio Economic Benefits

- Social: - Get people engaging with their community - Encouraging interaction with people Economic: - Would hopefully result in a flow on effect with local businesses (tourists spending money in town) - Employment opportunities - Potential for more businesses opening in town - Bike / accessories shop Education: -Potential to run courses in regards to bike safety and maintenance. -Potential to expose the community to Mountain Biking 'world' Environmental: - Potential to educate people on the native flora and fauna of the area Health: - Encouraging activeness through bike riding
- Tourism Potential jobs; Physical benefits
- Absolutely none
- Getting families active

4. What social, environmental or other costs could be associated with Mountain Bike and other trails in the Koolanooka Hills?

Major Socio Environmental and Other Costs

- Environmental: - Land clearing for proposed trail Maintenance: - No doubt would be a cost associated with maintaining the trails
- Impact on the environment Impact on local farmers
- Damage to fragile eco systems
- Organised events

5. What social and economic infrastructure will be required to support Mountain Bike and other trails in the Koolanooka Hills?

Socio and Economic Infrastructure Required

- Is interesting to note from the link on the Shire page, that part of the success in Derby is the 'ski village' feel to the project. All the trails link back into the town. "You don't have to drive for 20 minutes" to get to the location. This could mean infrastructure would need to be built on site in order for the project to be successful.
- Ablutions
- Toilets, Signage, tables chairs, bins

6. What social and economic needs in the Morawa and surrounding regions could be addressed by Mountain Bike and other trails in the Koolanooka Hills?

Socio and Economic Needs Addressed

- Increased tourist numbers - Increase in money spent in town Increase in employment opportunities - Maintenance of the trails - Potential positions of businesses do open/ existing businesses can take on more staff
- Absolutely none
- Accommodation

7. What other tourism opportunities does the region have and/or could be developed and promoted in association with Mountain Bike and other trails in the Koolanooka Hills?

Socio and Economic Infrastructure Required

- Could work in with the wildflower season. Some people using the Derby trails were in the older age demographic
- Wildflowers
- Astro-tourism

8. What other regional industries and businesses could benefit from Mountain Bike and other trails being established in the Koolanooka Hills?

Best Practice Models

- More people being attracted to Morawa could see them having a positive economic impact on surrounding towns as they travel through the area.
- Tourism
- Cafe's tour groups

9. Are you aware of any best practice models for establishing Mountain Bike trails in other Australian or international regions?

Best Practice Models

- No
- No
- Nothing in remote areas such as this
- No

10. Finally, do you have any other comments you would like to make in relation to the proposal for Mountain Bike and other trails in the Koolanooka Hills?

Other Comments

- Firstly I would like to applaud the council for exploring ideas to better our town. However, my biggest concern for this project is the financial input needed for construction and maintenance. As the 'Morawa Mountain Bike Opportunity Report' states, \$4.6 million for the project is a considerable amount of money to be spent. The ongoing costs should be thoroughly investigated. Margaret River and Kalamunda both have considerably larger populations and attractions in close proximity to them. Although I understand this is all preliminary work, I find it difficult to compare ourselves to these two locations when looking at potential financial income from this project. If this project is funded almost in its entirety with 'grant money' then I think it is worth pursuing. If this is not the case, then I believe there are many struggling local clubs where this money could be better spent.
- Do the benefits outweigh the cost? Is it cost prohibitive?
- Massive waste of local govt funds that could be better spent on rural roads and associated infrastructure
- This is the most biased set of questions I've ever seen... there is absolutely no way this will give a balanced survey to the decision makers

5 TRAILS STAGING PLAN

5.1 Trail Development Process

The Australian Mountain Bike Trail Guidelines, Mountain Bike Australia, 2019 recommends the following process for trail development. TrailScapes provides this as current industry best practice.

It is important to build the right trails, in the right places, in the right way and for the right reasons. This ensures that trails are sustainable and are an asset to landowners and managers, trail users and the community.

Trails are like any other asset of facility development and as such, are subject to a formal planning and approval process. The processes outlined below provide landowners and managers, trail developers and trail groups with a structure and holistic approach to trail development and management.

With the increasing demand for trails across Australia, it is important that the standard of trail development is applied in a uniform manner, using current sustainability standards that provide excellent trails whilst minimising ongoing maintenance costs.

A robust trail development process achieves these outcomes by moving trail development away from purely design and construction approach to a more considered and planned approach.

Working within a standardised methodology is especially important in high conservation areas where trail planning, design and construction needs to be done right the first time. Building rigour into the development will ensure that the project proposals are transformed into professionally built assets.

The process refers to engaging expert knowledge at various stages. It is important to note that that a professional trail planner, professional trail designer, and a professional trail builder are very different disciplines, and all require a different skill set and knowledge base.

The trail development process outlined in the table below involves eight stages and encompasses a constant evaluation, review and improvement process as trails are being extended or revised.

Each stage must be completed before moving on to the next stage. If trail revitalisation or renewal is required, the whole planning process should be reviewed to determine if the basis for previous decisions have changed.

The following table details the recommended trails development process.

Table 4
Trail Development Process

Stage	Outcome
1. Proposal	The proposed area is either supported in principle for trail development, or is not supported due to environmental, social or cultural constraints. Or proposal to identify suitable areas.
2. Framework	A project outline, developed by project steering group (stakeholders), including: project objectives, project management model, stakeholder roles, target market, requirements, standards, execution, and ongoing trail management model.
3. Site Assessment	Undertake a broadscale study of the area and identify constraints, soil types, vegetation, cultural heritage etc.
4. Concept Planning	Identify opportunities and conceptual trail plan including infrastructure requirements produced. Broad trail corridors are physically flagged in the field.
5. Corridor Evaluation	Detailed assessment of trail corridor.
6. Detailed Design	Detailed trail design produced and physically flagged in the field, including: trail classifications, technical trail fetes (TTF's), construction types and specifications.
7. Construction	Trail and infrastructure are constructed in line with the detailed design.
8. Management	Management plan implemented detailing maintenance and monitoring requirements

5.2 Staging Plan

Planning and delivering the trail network should incorporate the recommended 'Trail Planning Process' for each stage and both consider and take advantage of the local climate for planning and construction phases.

Future trail development should consider visitor feedback from previous stages to improve and enhance visitor experience and cater for changing tourism and MTB trends. For the purpose of this staging plan, TrailScapes will assume that the appropriate governance and trail development processes are ongoing in the background to enable full delivery of the proposed 100km trail network.

There may be a number of Planning Applications, Vegetation Clearance Permits, Cultural Heritage Agreements, Waste Water Permits etc. that will be required throughout the development process. It is expected that the responsibility for these requirements will be shared between the 'Trail Designer & Landscape Architect Team' and 'Morawa Shire Team' to enable efficient processing.

**Table 5
Recommended Staging Plan**

Financial Year	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7				
	Season	w	s	s	a	w	s	s	a	w	s	s	a	w	s	s	a	w	s	s	a	w	s	s	a	w	s	s	a
Proposal Supported																													
Funding Agreements																													
Finalise Project Framework																													
Secure Funding																													
Stage 1																													
Engage Trail/facility Design Team																													
Branding and Identity Planning																													
Site Assessment, Concept and Design																													
Engage Construction Team																													
Trailheads & Campground upgrade																													
Trail Construction																													
Morawa Facility Construction																													
Practical Completion																													
Management & Maintenance start																													
Opening, Event, riding/walking season																													
Visitor survey and feedback period																													
Stage 2																													
Concept and Design																													
Trail Construction 30+ km																													
Visitor survey and feedback period																													
Stage 2 Opening & Event Period																													
Stage 3																													
Concept and Design																													
Trail Construction 30+ km																													
Stage 3 Opening & Event Period																													

	Morawa Shire & Financial Consultant Team
	Trail Designer, Landscape Architect, Branding Expert Team
	Trail and Visitor Facility Construction Team

5.3 Stage One Recommendations

The following key recommendations are made for Stage One of the Trails Project:

- Commence Brand Identity Planning. This is a critical element of a successful and high-profile Trail Town and Trail Network and should commence early in the development period.
- Initiate a concept and design process to better explore the landscape and possibilities rather than proceeding straight to detailed design. The concept and design process can incorporate the detailed design phase but ensures that the community remains involved and ensures a lineal and more wholistic approach to the project. We recommend a partnership with a Trail Professional and Landscape Architect to provide the best outcomes.
- We propose a tangible connection with the Koolanooka Trail network to promote the destination from Morawa and provide locals and tourists with a valuable facility within the township including:
 - A Mountain Bike (MTB) Pump Track and Skills Park that will provide a 'piece of the Koolanooka Trail Network' in the town of Morawa. This facility will be a visual focal point in the township where locals and tourists can gather to both socialise and gain skills and fitness that will enhance their experience and enjoyment of the Koolanooka Trail Network.
 - This proposal includes a short MTB trail circuit, a skills circuit and a pump track which would provide a variety of conditions for riders of all skill levels and ages.

Pump Track

A pump track is designed for all things on wheels. From mountain bikes to BMX's, skateboards and scooters; a pump track is a playground for all wheels. By combining rolling jumps with plenty of turns, they are accessible for all. Pump tracks teach the rider the basic skills of carrying momentum, balance and speed by using your arms and legs to pump your bike/board/scooter around the track. As you get better, the tracks are designed to provide more challenges for you with no changes to the construction. For example, a 5-year-old can roll through the same track that can be used as a gap jump for a professional.

While the cost of a dirt pump track is relatively low, they have very high maintenance costs estimated at over \$10,000 per year, with major rebuilds after the wet season and a full make over every 5 – 10 years. An asphalt track requires a much higher initial outlay (\$125,000) but has minimal maintenance needs and a life expectancy of 30 years. Using a whole of life cost, the maintenance costs of a dirt track outweigh the build cost of an asphalt track within the first 10 years. An asphalt track can be used by skateboards, scooters, roller blades and bikes, whereas a dirt track is only suitable for bikes. An asphalt track can also be used in all weather conditions whilst a dirt track can only be used when dry. Riding a dirt pump track when wet can cause severe damage requiring expensive repair work.

Skills Park

A Skills Park is small area usually adjacent the Pump Track where riders can practice balance, learning important skills and improving confidence on a bike. The features of a Skills Park are based on learning progression by providing a range of structures and obstacles that enable the rider to develop their skills gradually. The Skills Park would provide similar challenges that could be expected at the Koolanooka Trail Network.

Three sets of table top style jumps would be provided that also enable riders to gain confidence and learn to jump progressively.

The Skills Park would include some built structures made from low maintenance Fibre Glass Reinforced Plastic (FRP) and natural materials sourced from the Koolanooka site. A cost estimate of \$25,000 applies depending on design.

Mini MTB Trail Circuit

The mini MTB trail circuit would be built onto the Skills Park. This would be a very short loop where riders can put into practice the skills and confidence gained on the Pump Track and Skills Park on an open trail. The trail would contain A and B lines with optional technical trail features the rider can enjoy or avoid.

Stage 1 Trail Network

Stage 1 focusses development north of the Koolanooka Springs Road and aims to provide a variety of trail types and classifications in line with researched target markets to suit a range of riders and abilities. See appendix for Stage 1 Trail descriptions and Map.

TrailScapes has provided a conceptual plan of approx. 28km of trail for Stage 1. The alignments provided in this report are indicative and based on contours and key control points. Features of the concept include:

- Utilising the Western side of the range for a MTB focussed trailhead. The trailhead should include a confined carpark, signage, toilet, shelter and seating.
- Retaining the Koolanooka Springs area for Wildflower appreciation , camping and predominantly walking activities.
- Providing a central 'soft adventure' trailhead between the Ironstone and Granite Hills. This is the central meeting point between the western MTB trailhead and the Koolanooka Springs trailhead.
- Providing a shared-use (walking and Cycling) trail linking the 3 trailhead areas.

Trails

- The layout of the trails reflects the intent of the trailheads by focussing the MTB adventure seekers on the western side of the Ironstone Range, the soft adventure riders in a central location and the nature appreciation in the Granite Hills to the East.
- The Wildflower Wander is intended for walking only. The nature of the granite boulder would make constructing an easy MTB trail quite challenging and involve major earthworks that would potentially impact on the aesthetics of the area.
- The Easy Trails are all designed at a low gradient making walking and cycling very easy.
- Both the Easy and Intermediate Climbs could potentially permit hiking access as well. The Gradients are low and climbing speed on a MTB is low so user conflict is minimised. This would enhance the walking offering in the area and enable walkers to experience both the Ironstone and Granite geology.
- Whilst there is ample room to design and build longer descending trails we need to aim for a minimum of 5% gradient on Intermediate and Difficult descending trails to maintain adequate speed to produce the riding experience expected from those market segments. The descending trails have all incorporated the high points of the hill to maximise distance.

Other Key Features

- The internal access road is key to the success and function of the trail network. Some riders may choose to ride directly up the road as the quickest way to the top of the hill or use the road for shuttles.
- The internal access road is in reasonable condition but requires basic water management features to be reinstalled and maintained. A 250m near the top section of the access road needs grading, widening and water management features installed to enable safe two-way vehicle access. This work could potentially be completed by the Shire.
- The lookout at the top of the road provides an outstanding view and interpretation of the mine site and surrounds. This alone is an attraction for visitors to Morawa and may also expose people to the Trail Network and encourage them to hire a bike and try out the trail network.

5.4 Future Staging

Future trail development should consider visitor feedback from stage 1 to improve and enhance visitor experience and cater for changing MTB Trends. Stage 1 will function as a stand-alone trail network if future stages are not pursued however that could affect future

economic benefit projections. Potential future stages (See appendix for Future Staging Map) should consider:

- Trail development potential in the Granite Block west of the Koolanooka Springs Campground.
- Create a trail riding focussed experience south of Koolanooka Springs Road.
 - Safe crossing areas over Koolanooka Springs Road with good sight lines and signage.
 - Avoiding areas of cultural heritage.
 - Provide a series of expanding loop trails progressing in challenge and difficulty.
 - Provide an extended longer distance (20km+) trail to suit fitter riders and e-bike riders. This would be valuable for long distance or endurance MTB events as well.

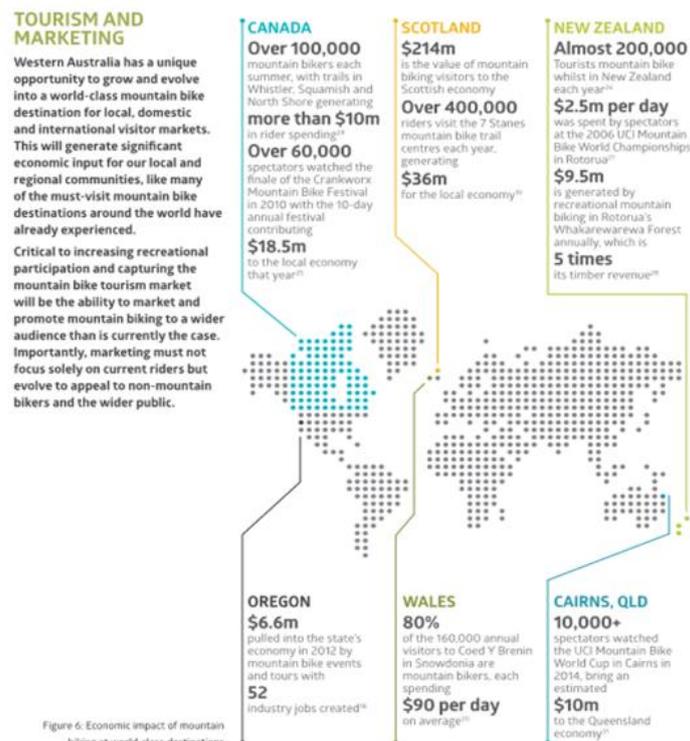
6 ECONOMIC BUSINESS CASE

6.1 Global and Australian Experience

Global experience indicates significant socio-economic benefits associated with the development of world-class mountain bike destinations such as that proposed for the Koolanooka Hills. The following figure indicates that:

- One 10 day mountain bike festival in Canada (2010) generated \$18.5 million for the local economy.
- In Scotland, 400,000 visitors per annum to the 7 Stanes mountain bike trail centres generates \$36 million for the local economy.
- In New Zealand, mountain biking in Rotorua generates \$9.5 million for the local economy.
- In Oregon (USA), \$6.6 million and 52 jobs are contributed by mountain bike events to the local economy.
- In Cairns (Queensland), 10,000 visitors to the World Cup generated \$10 million for the local economy.

Figure 1



(Source: WA Mountain Bike Strategy)

In addition to the above, the Adelaide Hills Mountain Bike Proposal (currently under consideration) is predicted to have the following operational impacts on the South Australian economy (ex-construction) based on an estimated spend by tourists of \$4 million per annum:

Table 6
Adelaide Mountain Bike Proposal – Operational Socio-Economic Impacts

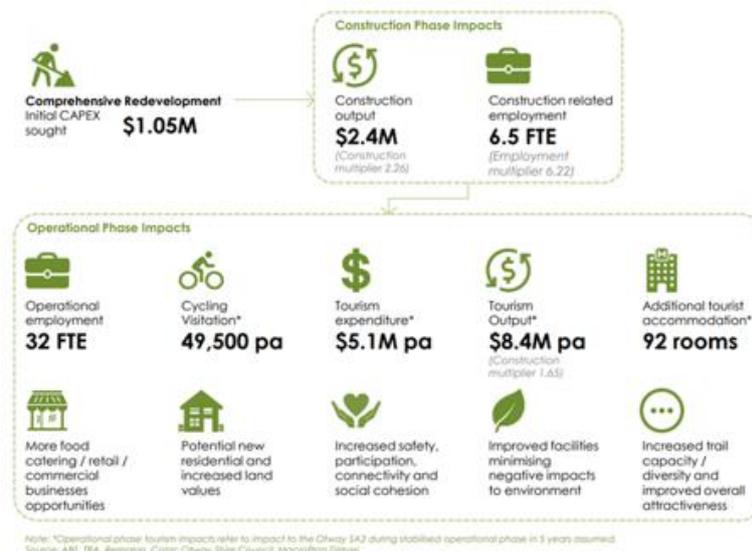
Operational Economic Impacts (Per Annum)	
Employment per annum (Full Time Equivalent jobs after adjusting for inflation)	34.5 FTE Jobs
Value Added or Contribution to Gross State Product per annum (Salaries, Wages and Profits)	\$4.79 million

Source: Hudson Howells

In 2015 a network of Mountain Bike Trails (MTB) opened in the wooded hills surrounding Derby in Tasmania. The economic benefits to Derby and Tasmania have been estimated at \$18 million and \$30 million respectively. The project has transformed the town (population increased from 173 to 207 in 2016) and in April 2017, Derby hosted a round of the Enduro World Series. It was the first time the Enduro World Series has been held in Australia.

Also, the following figure indicates the economic benefits associated with the recently establish mountain bike trails in the Colac Otway Shire (2 hours from Melbourne).

Figure 2
Colac Otway Shire Mountain Bike Trails Economic Impact



6.2 Financial Model

A financial model for the project has been developed in Microsoft Excel in order to assist with the economic business case and benefit/cost assessment. The model incorporates gross development cost estimates based on previous projects undertaken by TrailScapes and Hudson Howells, and cost testing with industry standards (Rider Levett Bucknall Digest). No attempt has been made at this stage to more accurately cost the project as there are no detailed project/trail specifications.

All modelling results are expressed in year 2019 constant Australian dollars.

6.3 Land Tenure and Costs

It is understood that the subject land in the Koolanooka Hills is Crown Land currently subject to Native Title resolution. The mine site is currently under lease to Sinosteel Midwest with current mining suspended.

The Shire's preferred operating model would be for the trail bike and associated sites to be placed under shared management with the Crown and for this reason it is assumed there to be no capital cost for site access and use.

6.4 Capital Costs

The following capital/establishment costs are estimated for Stage 1.

Table 7
Estimated Capital Costs – Stage 1

Item	Estimated Cost
Planning & Design; Project Management	\$50,000
Trails – 28 kms @ \$30 per linear metre	\$ 840,000
Trail Heads & Sign – 4 @ \$5,000	\$20,000
Car Parking – Light Duty Paving 20@ \$2,400	\$48,000
Trail Head Toilets	\$80,000
Internal Access Road Upgrade	\$10,000
Springs Camping Site Upgrade – Site; Toilets; etc	\$200,000
Visitor Entry Point and Signage	\$20,000
Landscape Architect – Trail Heads Style; Colours; etc	\$20,000
Brand Identity Plan – Logo; Colours; Fonts; etc	\$10,000
Morawa Pump Track	\$125,000
Morawa Skills Park	\$25,000
Morawa Trail Head Area	\$5,000
Marketing and Digital Content Establishment	\$30,000
TOTAL	\$1,483,000

Note that no provision is made in the above capital costs for power and potable water.

6.5 Annual Operating Costs

Annual operating costs for Stage 1 are estimated to be \$107,000 per annum comprising:

Table 8
Estimated Operating Costs – Stage 1

Item	Estimated Cost
Trail Management & Maintenance @ \$1,500 per km	\$42,000
Trail Head & Other Maintenance	\$10,000
Marketing and Digital Content Management	\$30,000
Visitor Surveys and Analysis	\$15,000
Pump Track, Skills Park & Trail Head Maintenance	\$5,000
Administration – Office; Phone; Printing; etc.	\$5,000
TOTAL	\$107,000

Trails Management and Maintenance could include, for example:

- Site Management
- Volunteer Coordination
- Signage and Branding Consistency
- Maintenance Audits, Scheduling and Contracting

Marketing and Digital Content Management could include, for example:

- Advocacy and Programs Planning and Management
- Web and Mobile Application Development and Management.
- Digital Content Creation including Photographic, Video and Graphic Design.
- Collateral Production and Distribution.
- Web and Digital Advertising Management.
- Sponsorship Development.
- Capital Investment Management.
- Crowd/Philanthropic Funds Sourcing Management.
- Government Funds Sourcing Management.
- Membership.

6.6 Annual Operating Revenue

Research and consultation has identified that there are no standard revenue models for mountain bike trails across Australia and it could be generally assumed that they generate no revenue other than prizes and sponsorships for major events. The benefits of the projects are in their socio-economic contributions as detailed above and discussed further below in relation to this project.

Events and festivals do generate sponsorship and, in some cases, participant revenue. For example, the Fat Tyre Festival in Melrose, 265 km north of Adelaide, charges for weekend and day tickets as follows:

- Weekend tickets - \$35 Adults / \$25 Kids (school aged) Kids under 3 free.
- Day tickets - \$20 Adults / \$15 Kids (school aged) Kids under 3 free.
- Additional cost per guided rides per Adult / Child: Cost - Melrose Trails - \$5.
- Epic rides - \$30 includes a goodie bag exclusive to Epic riders
- Skills Sessions with Giant Junior Dirt Skills - \$5.

Melrose is an established mountain bike destination and the festival includes a number of associated food, music, historical, cultural and other events. The event (and other events) are funded by sponsorships, volunteers and participant fees.

However, we believe there will be opportunities in the first instance for the Shire to attract contributions to capital costs from government grants (e.g. Commonwealth Government Building Better Regions Fund and State Government Sports Grants) plus capital and annual revenue contributions from sponsorships and donations (e.g. regional mining companies, rural businesses, local businesses, etc.).

As such capital and operating revenue contributions are unsure and not able to be estimated at this stage, it is assumed that there will be no revenue for the purposes of the financial analysis. This does, however, allow the Shire to see the financial task for capital and ongoing operating costs.

6.7 Capital and Operating Costs – Stages 2 and 3

Based on the preceding Staging Plan, Stages 2 and 3 are expected to commence as follows:

- Stage 2 – Year 5 : 30 kilometres +
- Stage 3 – Year 6 : 30 Kilometres +

Based on 2019 costing at \$30 per linear metre, trail construction costs are estimated be \$900,000 each. Total construction costs for each are estimated to be \$1.1 million inclusive of:

- Planning & Design; Project Management - \$50,000
- Trail Heads & Signs – \$20,000
- Additional Car Parking – \$48,000
- Trail Head Toilets \$80,000

Significant economies will be achieved in operating costs which are estimated to be an additional \$50,000 per annum per stage inclusive of maintenance, management and administration.

6.8 Financial Modelling

As noted above, a 10 Year financial model for the project has been developed in Microsoft Excel in order to assist with the economic business case and benefit/cost assessment. This has been prepared on a cash basis to indicate annual capital and operating costs and the project's estimate 10 year Net Present Value (exclusive of any capital and operating

revenues). The following table summarises the 10 year project cash flows and NPV based on the above capital and operating cost estimates, discounted for NPV at 1.5% per annum.

Table 9
10 Year Cash Flow and NPV Calculations

Cash Flow and NPV Analysis											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Capital Costs	\$1,483,000	\$0	\$0	\$0	\$1,100,000	\$1,100,000	\$0	\$0	\$0	\$0	
Operating Costs	\$107,000	\$107,000	\$107,000	\$107,000	\$157,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000
Total Annual Cost	\$1,590,000	\$107,000	\$107,000	\$107,000	\$1,257,000	\$1,307,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000
Capital Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Operating Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Cash Flow	\$1,590,000	\$107,000	\$107,000	\$107,000	\$1,257,000	\$1,307,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000
Accumulated Cash Flow	\$1,590,000	\$1,697,000	\$1,804,000	\$1,911,000	\$3,168,000	\$4,475,000	\$4,682,000	\$4,889,000	\$5,096,000	\$5,303,000	
NPV @ 1.5%	\$4,965,307										

Based on the above, the Morawa Trails Project will have the following 10 year financial requirements (exclusive of any grants, sponsorships, donations, etc.):

- An accumulate cash flow requirement of \$5.3 million.
- A NPV at 1.5% of \$4.965 million.

Stage 1 is estimated to have a capital requirement of \$1.5 million plus annual operating expenses of \$107,000 (exclusive of any grants, sponsorships, donations, etc.).

6.9 Socio-Economic Impact Assessment

While the above sections detail the estimated capital and operating cost requirements, the project will deliver significant socio-economic benefits top the Shire and State that put these costs into a cost/benefit perspective.

This section of the report details the employment, income and other benefits associated with the project including ‘multiplier’ impacts as measured by employment and value added (contribution to Gross State Product, or salaries, wages and profits). These impacts cover all aspects of the project including both the construction of the trails and the operational phases.

The multiplier (or downstream) impacts are important in the context of total Statewide and Shire impacts of the project. They recognise that there will be ‘leakage’ of expenditure associated with the project to other regions (metropolitan areas and possibly other economic regions) and that the economic impacts reach further than the immediate Morawa region.

A Microsoft Excel model has been developed by Hudson Howells to assess the economic impacts of the project and an Input – Output methodology has been employed to model the impact of the project on the State and Shire economies.

Input - Output Tables for Western Australia and the Morawa Shire Region have been developed as a methodology for assessing the economic impacts. These economic impacts include the direct value added and employment impacts, plus the flow through effects as

estimated using the 2018 Hudson Howells’ Input-Output Model – with employment impacts adjusted for inflation at 1.5% p.a.

This economic impact assessment identifies the potential jobs and incomes that may be associated with the project. Job and income creation are critical elements of the social agenda for economic regions. Economic and social development are intertwined and there is a very strong correlation between economic growth and social indicators (e.g. unemployment and crime rates).

An accepted methodology for measuring economic outcomes, and one that is used nationally and internationally, is to measure the value added and employment associated with investment or turnover outcomes.

Value added is defined as the extent to which the local economy adds value to the product or services supplied, and essentially is the returns to labour and capital in the region for that activity – it represents the incomes to labour and capital. It is consistent with the predominant national measure of economic activity of Gross Domestic Product (GDP) or Gross State Product (GSP).

This value added and employment impact can be measured at two levels. Firstly, there is the direct impact – the value added and employment contribution or share associated directly with the expenditure (e.g. the labour and profits involved in the initial construction activity). Secondly there is the indirect or multiplier impact – for example that associated with the suppliers to the construction service, and the spend of employee wages.

Construction Phase Multipliers

The following construction multipliers, adjusted for inflation, have been derived from the Hudson Howells’ Input – Output Tables for Western Australia.

Table 10 Western Australia Construction Sector Multipliers	
Employment (per \$ million)	6.32
Value Added (\$ million)	1.07

The above multipliers mean that \$1 million of construction output will result in the employment of 6.32 persons in the State (directly and through the multiplier effects). The value added or GSP (salaries, wages and profits) associated with this activity would be \$1,070,000.

Operational Phase Multipliers

The *Accommodation and Food Service Industry* is considered the best industry sector to approximate the operational economic impacts of the Morawa Trails Project. This sector has the following multipliers adjusted to 2018/19 for inflation:

Table 11	
Accommodation and Food Services Sector Multipliers	
Western Australia	
Employment (per \$ million)	11.02
Value Added (\$ million)	1.091

The above multipliers indicate that every \$1 million of additional regional turnover associated with the project supports employment of 11.02 persons in the State (directly and through the multiplier effects). The value added or GSP (salaries, wages and profits) associated with this activity is \$1,091,000.

The following sections estimate the employment and value added impacts of the Morawa Trails Project (all 3 stages) on the State, based on the above multipliers. The following additional notes and assumptions are made:

- Value added is defined as returns to capital and labour (i.e. salaries, wages and profits).
- Employment is defined as full time equivalent (FTE) employees.
- The Input-Output Tables provide multipliers across a broad range of industries. For the purposes of this assessment the construction sector's multipliers have been used as it is assumed that the majority of capital expenditure will go into capital works and other construction related economic activity.

It should also be noted that the economic impacts include the direct and indirect (or multiplier) impacts of the project on the State as measured by Hudson Howells' Input – Output Tables. The assessment does not factor in employment and GSP that might be displaced from other projects or facilities, or loss of production from current land uses (i.e. it is a measure of the gross impact of the Project and the jobs and GSP that it supports).

Construction Phase Economic Impacts

It is assumed that all 3 of the construction stages of the project will take in the order of 3 years to complete (i.e. 1 year each). Construction costs are estimated to be approximately \$3.7 million as detailed above.

The following table details the calculation of economic impacts associated with this investment at the State level. These are per annum estimates based on the estimated investment in the project over 3 years.

Table 12	
Western Australia	
Total Construction Economic Impacts (Per Annum Over 3 Years)	
Employment (Full Time Equivalent jobs)	14 FTE Jobs
Value Added or Contribution to Gross State Product per annum (Salaries, Wages and Profits)	\$4.04 million.

These economic impacts include the direct value added and employment impacts, plus the flow through effects as estimated using the Hudson Howells' Input Output Model – with employment impacts adjusted for inflation at 1.5% p.a.

It is important to note that the above estimates indicate the total gross economic impact of the project but it is not an indication of the net benefits and costs of the project from a community wide perspective.

In summary, over the expected 3 year construction period for the 3 stages, there are sustainable employment and value added (salaries, wages and profits) benefits that the project could generate for the State.

Operational Phase Economic Impacts

On completion, the Morawa Trails Project will provide an additional tourism and accommodation asset for the State and Morawa Shire that will (in addition to the construction benefits) deliver ongoing economic and community benefits. While there is no ongoing construction, there will be long term tourism, visitor and social outcomes associated with the new facilities that will generate ongoing employment and Gross State Product benefits for the State and the region. These benefits will be derived via two sources:

- Additional visitor spending associated directly with the project.
- Additional visitor/tourism spending in the broader regional economy.

The Common Ground Opportunity Report conservatively estimates that there will be 8,000 additional overnight stays when all 3 stage are fully operational. At an estimated average overnight spend of \$124, this equates to an estimated tourism turnover of \$992,000 per annum.

Based on a direct contribution to State GSP of \$992,000 million, the following table details the estimation of the project's State economic impacts associated with the additional spend by visitors.

Table 13	
Operational Economic Impacts (Per Annum)	
	Western Australia
Employment <u>per annum</u> (Full Time Equivalent jobs after adjusting for inflation)	11 FTE Jobs <u>per annum</u>
Value Added or Contribution to Gross State Product <u>per</u> <u>annum</u> (Salaries, Wages, Taxes and Profits)	\$1.08 million <u>per annum</u>

In summary, while fully operational, additional State employment associated with the project is estimated to be 11 FTEs with value added (salaries, wages and profits) reaching \$1.08 million per annum.

New Regional Economic Activity – Morawa Shire Region

The Morawa Trails Project will also impact on the local economy and in this case the Morawa Shire region. The difference between the State and regional impacts represents the ‘leakage’ of economic activity out of the region to other areas of the State. The regional impact will therefore be lower than the State impact.

The following construction multipliers have been obtained for the Morawa Shire region from Hudson Howells’ Input – Output Tables for Western Australia (after adjusting for inflation).

Table 14	
Morawa Shire Construction Sector Multipliers	
Employment (per \$ million)	3.007
Value Added (\$ million)	0.529

The following table details the calculation of economic impacts associated with the construction investment at the Morawa Shire level. These are per annum estimates based on the estimated investment in the project over 3 years as above.

Table 15	
Morawa Shire Region	
Total Construction Economic Impacts (Per Annum Over 3 Years)	
Employment (Full Time Equivalent jobs after adjusting for inflation)	3.7 FTE Jobs
Value Added or Contribution to Gross State Product per annum (Salaries, Wages and Profits)	\$0.653 million

It is again important to note that the above estimates indicate the total gross economic impact of the project but it is not an indication of the net benefits and costs of the project from a community wide perspective.

In summary, over the expected 3 year construction period for the 3 stages of the project there are sustainable employment and value added (salaries, wages and profits) benefits that the project will generate for the Morawa Shire region. During the construction phase, Morawa Shire region employment associated with the project is expected to average 3.7 FTEs with the value added contribution (GSP) reaching \$0.653 million.

For the **operational phase** of the project, the following accommodation and food service (tourism) multipliers (after allowing for inflation) have been derived for the Morawa Shire region from the Hudson Howells’ Input – Output Tables for Western Australia.

Table 16	
Morawa Shire Region Accommodation and Food (Tourism) Service Multipliers	
Employment (per \$ million)	7.99
Value Added (\$ million)	0.607

Based on a direct contribution to State GSP of \$992,000 as detailed above, the following table details the estimation of the project’s Morawa Shire region economic impacts associated with the additional spend by visitors.

Table 17 Morawa Shire Region Operational Economic Impacts (Per Annum)	
Employment <u>per annum</u> (Full Time Equivalent jobs after adjusting for inflation)	8 FTE Jobs <u>per annum</u>
Value Added or Contribution to Gross State Product <u>per</u> <u>annum</u> (Salaries, Wages, Taxes and Profits)	\$602,000 <u>per annum</u>

In summary, while fully operational, additional Morawa Shire region employment associated with the project is estimated to be 8 FTEs with value added (salaries, wages and profits) reaching \$602,000 per annum.

As noted above, the Opportunity Report visitation estimates were considered conservative, as are the above estimated State and Shire economic benefits. They also do not include the potential of future events and festivals. By comparison:

- The Riesling Trail in Clare, South Australia, is estimated contributes \$1.08 million directly to the Clare Region from 12,000 annual visitors (Source: www.southaustraliantrails.com).
- Margaret River’s 30 kilometres of trails achieve over 10,000 overnight stays and 35,000 visitors per annum, including day visitors (Source: Common Ground Opportunity Report).
- Data available from John Forrest National Park, 24 kilometres east of Perth, indicates an average of 8,695 visitors per month (with a peak in October of 14,693) of which nearly half (42.8%) undertaking cycling/mountain biking (Source: Western Australian Cycle Tourism Strategy).

16,000 overnight stays per annum, double the conservative Opportunity Report estimate, is considered a realistic aspirational target for the Morawa Trails Project at the completion of all 3 stages. Under this scenario, long term employment associated with the project is estimated to be 22 and 16 FTEs per annum for WA and Morawa Shire respectively, with value added (salaries, wages and profits) reaching \$2.16 and \$1.2 million per annum respectively.

Other Socio-Economic Benefits

It is important to acknowledge that projects of this nature do have other potential socio-economic benefits that will also contribute further to job and GSP outcomes. These include:

- **Improved regional tourism** – Additional and high standard tourism infrastructure such as the Morawa Trails Project will assist with both the attraction and retention of tourists to the Morawa Shire region.
- **Improved property values and local government income** – There are potential net benefits to local government arising from increased net rates (i.e. net of any additional costs) associated with increased property values as a result of the project itself (i.e. commercial rates), improved amenity, services and business incomes in the immediate area. The project will stimulate additional town pedestrian and tourism links that will also substantially increase the amenity of the immediate surrounds.
- **Improved Socio-Economic Outcomes** – An initial 3.7 construction jobs (over 3 years) and ongoing 8 operational jobs per annum in the Morawa Shire region will offer local employment opportunities, reducing unemployment and potentially having a positive impact on the social outcomes of unemployment (e.g. increased wellbeing, improved employment skills, lower crime rates, etc.). In addition, the local community will have a new and low/no cost recreational activity.

As already noted in the community consultation outcomes, the project will also deliver a wider range of benefits including, for example:

- **Health benefits** related to increase in physical activity and other wellbeing advantages associated with participation in trails activity including bike riding and walking. This could include improved mental health outcomes associated with exercise and reduced risk of depression through contact with natural environments.
- **Industry diversification** to cater for increased tourism. This could include new bike related businesses such as trail construction and maintenance, accommodation, bike hire, bike and accessory sales, cafes, site tours, tourism app development and rider coaching.
- **Improved social inclusion** including community connectivity and a sense of place. Participation in the trails could lead to an improved sense of regional community and interaction between community members.
- **Environmental benefits** including an improved natural environment and environmental management via improved conservation efforts and management practices.

7 SUMMARY AND CONCLUSIONS

In August 2018 the Shire of Morawa (Shire) commenced the Morawa Mountain Bike Opportunity Report (Stage 1) to determine the feasibility of developing trails within the Shire.

An Opportunity Report prepared by consultants Common Ground was considered by Council at its September 2018 Ordinary Council Meeting with a view to progressing to the next phase of developing the Morawa Trails Master Plan.

This report details the next phase of development being the Economic Business Case and Trails Staging Plan incorporating:

- Potential trail users and target markets.
- Existing trail networks in WA.
- Community consultation.
- A trails staging plan for construction of up to 100km of trails with map overview, timeframes and sample drawings (trail sections, sign styles, etc.).
- A stage 1 recommendation.
- Economic assessment/cost benefit analysis of trail network.
- Overview of marketing and promotion options including Brand Development.
- Overview of potential funding sources – Grants, sponsorship, donations, volunteers and fees.

The Economic Business Case details the costs and benefits aligned with the Staging Plan and is summarised as follows:

- Stage 1 of the Morawa Trails Project (Years 1 – 4) is estimated to have a capital requirement of \$1.5 million plus annual operating expenses of \$107,000 (exclusive of any grants, sponsorships, donations, entry fees, etc.).
- Stage 1 – 3 of the Morawa Trails Project (Years 1 – 10) is estimated to have an accumulated cash flow requirement (capital and operating) of \$5.3 million with a Net Present Value of \$4.965 million.
- Socio-economic benefits of the Morawa Trails Project will be derived from the construction and operational phases of the project and will include support for WA and Morawa Shire jobs and Gross State Product.
- **During construction**, it is estimated that the project will support 14 FTE and 3.7 FTE jobs in WA and Morawa Shire respectively each year over 3 years of construction for Stages 1 - 3. There will be an associated contribution to Gross State Product (salaries, wages, profits) of \$4.04 million and \$0.653 million per annum for WA and Morawa Shire respectively.

- **When fully operational**, it is estimated that the tourism and other expenditure associated with the project (8,000 overnight stays and \$992,000 per annum) will support 11 FTE and 8 FTE jobs in WA and the Morawa Shire respectively. There will be an associated annual contribution to Gross State Product (salaries, wages, profits) of \$1.08 million and \$0.602 million per annum for WA and Morawa Shire respectively. 8,000 overnight stays is considered a conservative assumption. 16,000 overnight stays per annum, double the conservative Opportunity Report estimate, is considered a realistic aspirational target for the Morawa Trails Project at the completion of all 3 stages. Under this scenario, long term employment associated with the project is estimated to be 22 and 16 FTEs per annum for WA and Morawa Shire respectively, with value added (salaries, wages and profits) reaching \$2.16 and \$1.2 million per annum respectively.

- Additional socio-economic benefits, as detailed in this report, will be derived from:
 - **Improved regional tourism** – Additional and high standard tourism infrastructure such as the Morawa Trails Project will assist with both the attraction and retention of tourists to the Morawa Shire region.

 - **Improved property values and local government income** – There are potential net benefits to local government arising from increased net rates (i.e. net of any additional costs) associated with increased property values as a result of the project itself (i.e. commercial rates), improved amenity, services and business incomes in the immediate area. The project will stimulate additional town pedestrian and tourism links that will also substantially increase the amenity of the immediate surrounds.

 - **Improved Social Outcomes** – An initial 3.7 construction jobs (over 3 years) and ongoing 8 operational jobs per annum in the Morawa Shire region will offer local employment opportunities, reducing unemployment and potentially having a positive impact on the social outcomes of unemployment (e.g. increased wellbeing, improved employment skills, lower crime rates, etc.). In addition, the local community will have a new and low/no cost recreational activity

 - **Health benefits** related to increase in physical activity and other wellbeing advantages associated with participation in trails activity including bike riding and walking. This could include improved mental health outcomes associated with exercise and reduced risk of depression through contact with natural environments.

 - **Industry diversification** to cater for increased tourism. This could include new bike related businesses such as trail construction and maintenance, accommodation, bike hire, bike and accessory sales, cafes, site tours, tourism app development and rider coaching.

 - **Improved social inclusion** including community connectivity and a sense of place. Participation in the trails could lead to an improved sense of regional community and interaction between community members.

- **Environmental benefits** including an improved natural environment and environmental management via improved conservation efforts and management practices.

8 Appendix

8.1 Stage 1 Trail Network

Stage 1 focusses development north of the Koolanooka Springs Road and aims to provide a variety of trail types and classifications in line with researched target markets to suit a range of riders and abilities

Wildflower Wander – Walking Only							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
2000		1.2m	Natural (compact)	Walking only loop trail with spurs to trailhead and Granite feature.	2000	N/A	N/A

Connector – Shared-Use							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
5300		1.2m	Natural (compact)	Two way shared use trail connecting trailheads and trails.	5300	N/A	N/A

Easy Climb							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
3300		900m	Natural (compact)	One way climbing trail. Average of 2% gradient.	3300	N/A	N/A

Easy Descent							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
3200		900m m	Natural (compact d)	One way flow trail suitable for beginners and inexperienced riders	3200	N/A	N/A

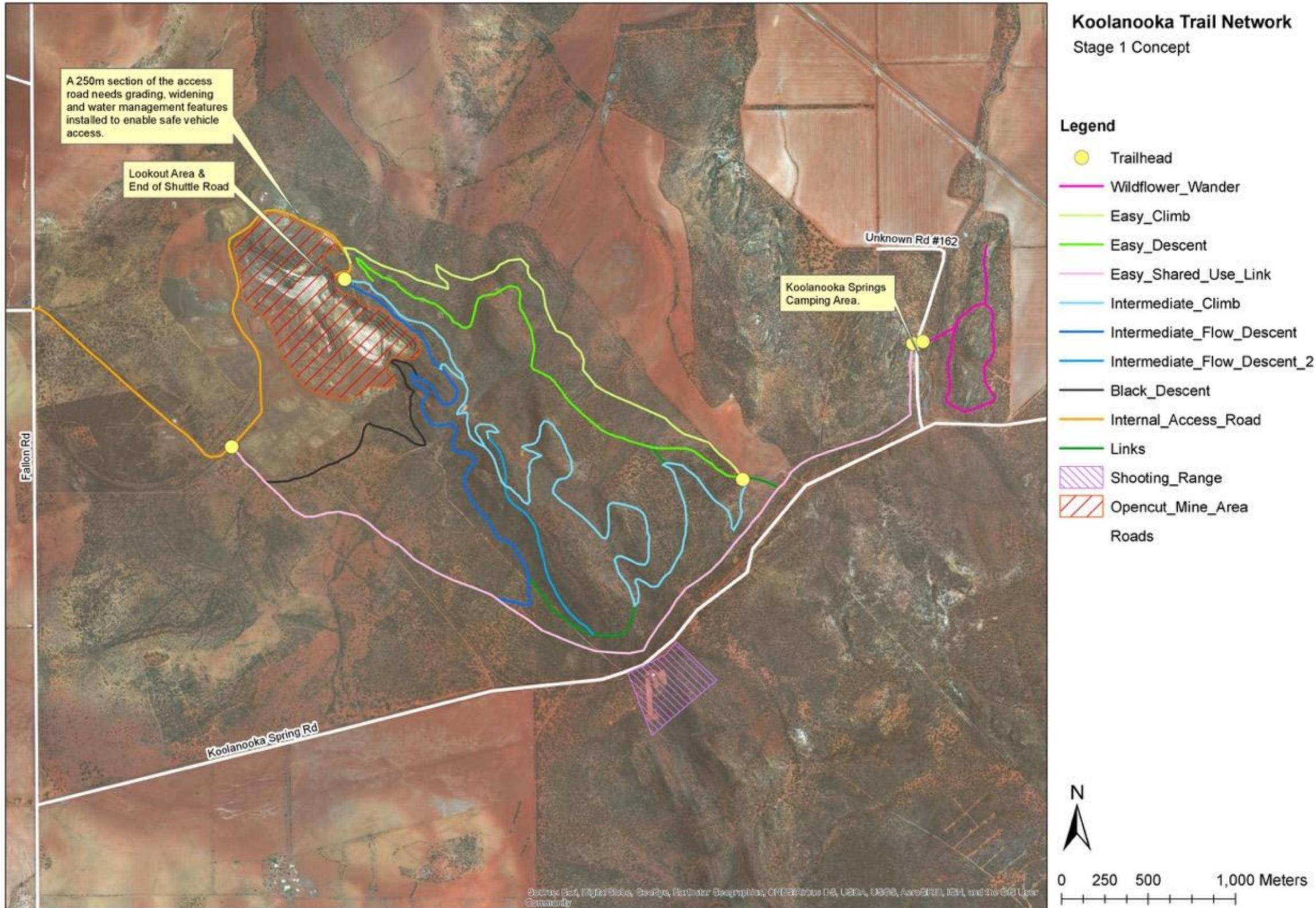
Assorted Link Trails							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
1200		900m m	Natural (compact d)	Two way trails connecting various trails.	1200	N/A	N/A

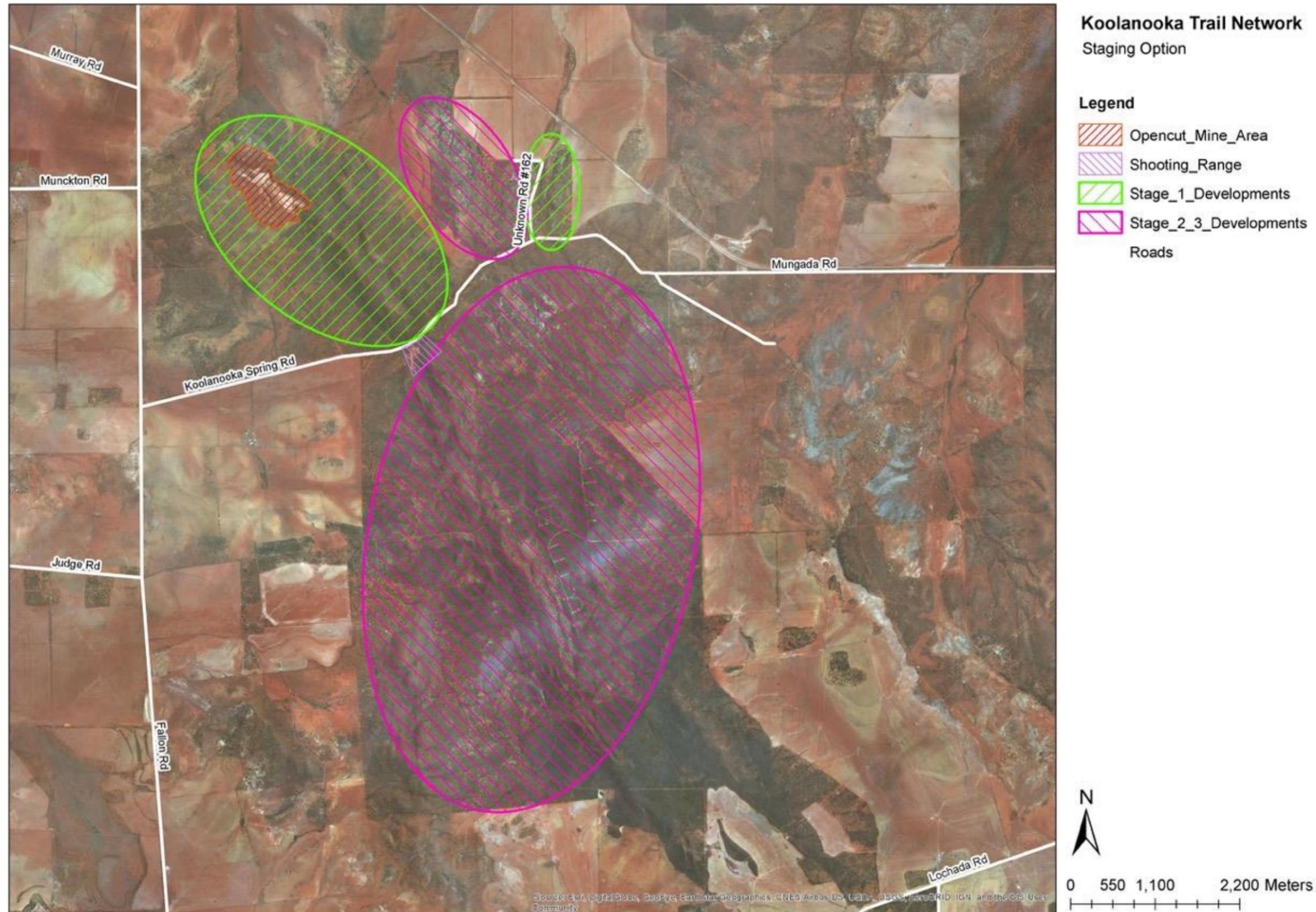
Intermediate Climb							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
7000		600m m	Natural (compact d)	One way technical single trail. Low gradient.	4000	3000	N/A

Intermediate Descent							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
2900		600m m	Natural (compact d)	One way technical flow trail. First 1000m is slight climb to High point. 1.9km descent.	2000	900	N/A

Intermediate Descent 2							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
1400		600m m	Natural (compact d)	One way technical trail	1000	400	1 x fly over climb trail

Black Difficult Descent							
Length (m)	IMBA Rating	Width	Surface	Direction/style	Approx. Machine construction	Approx. Hand construction	Trail structures
1800		400 - 1m	Natural (compact d)	One way technical trail with difficult technical trail features and jumps.	1200	600	TBC





8.2 Sample Drawings

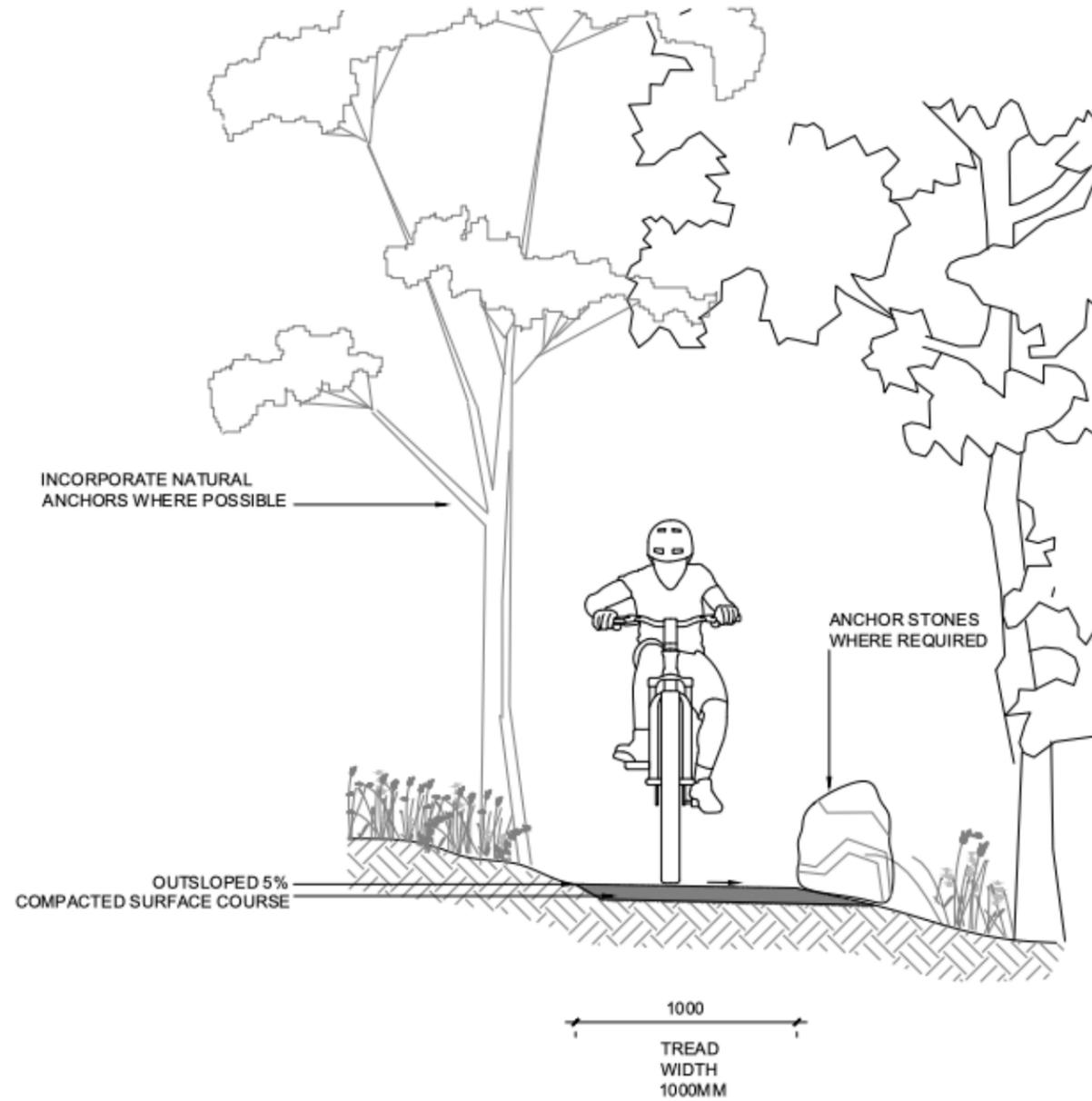


FIGURE 1

TYPICAL TRAIL PROFILE
SECTION
SCALE 1:25

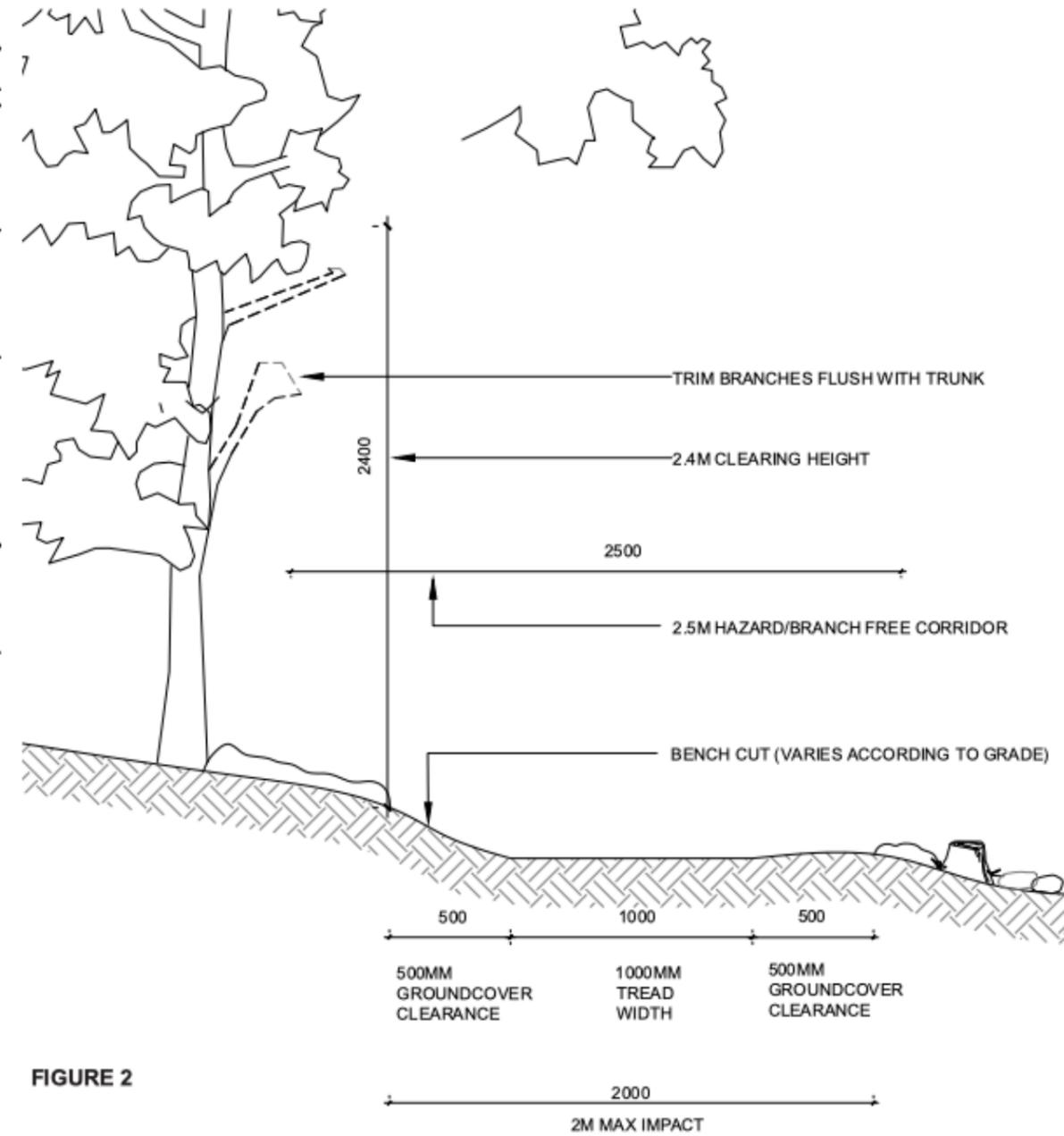


FIGURE 2

TRAIL LIMITS
SECTION
SCALE 1:25

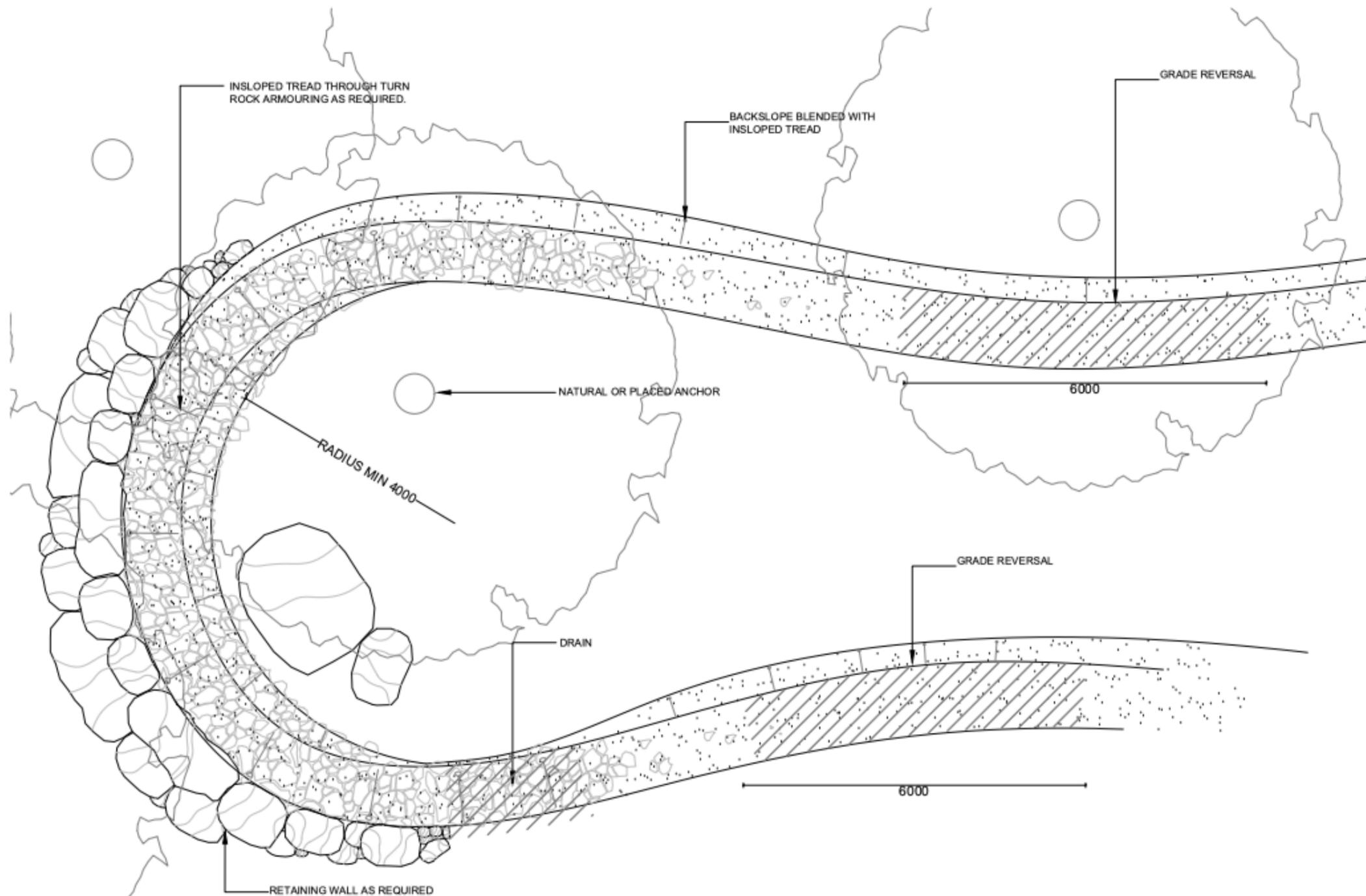


FIGURE 3
SWITCHBACK
TYPICAL DETAIL
SCALE 1:50

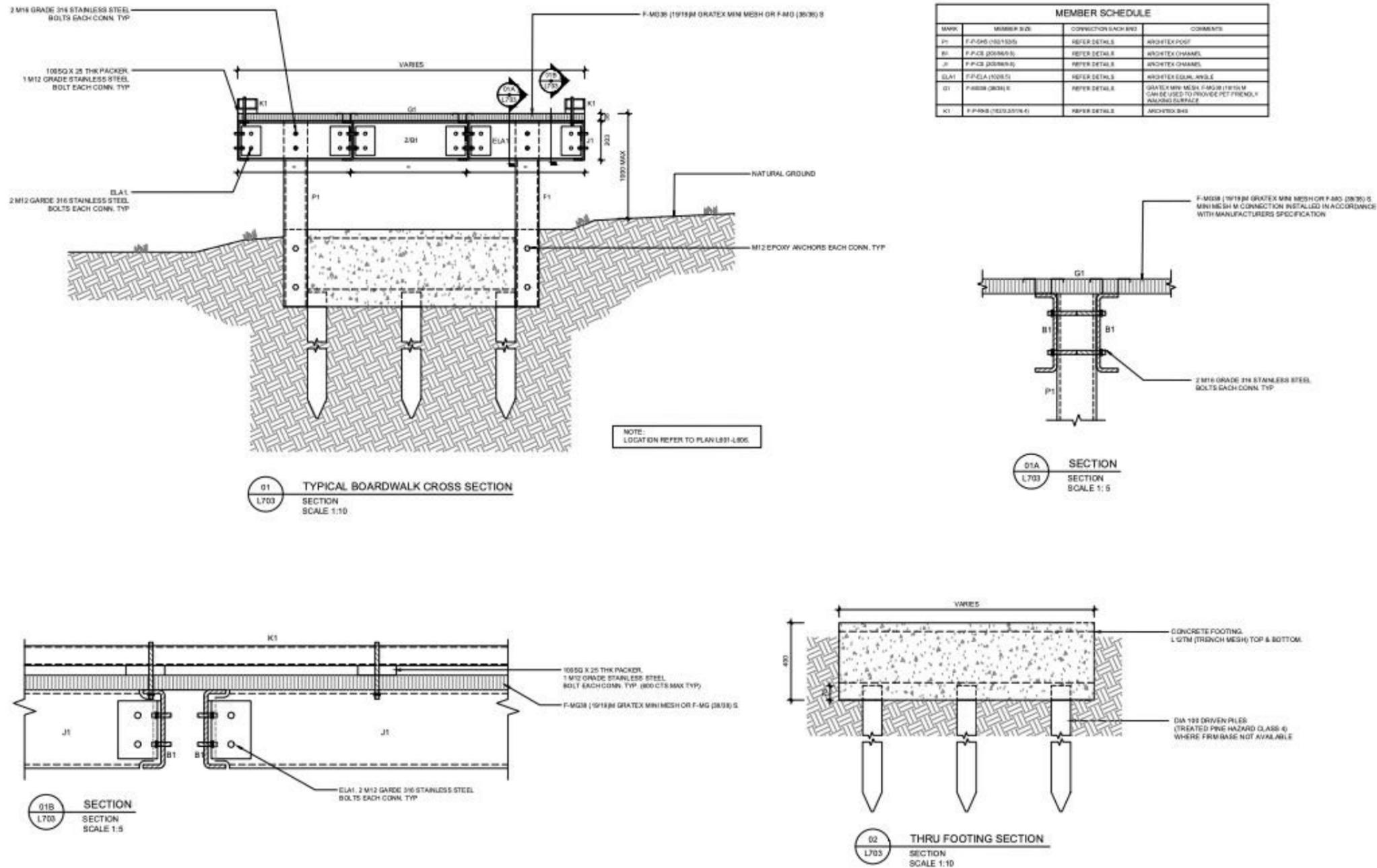


FIGURE 4

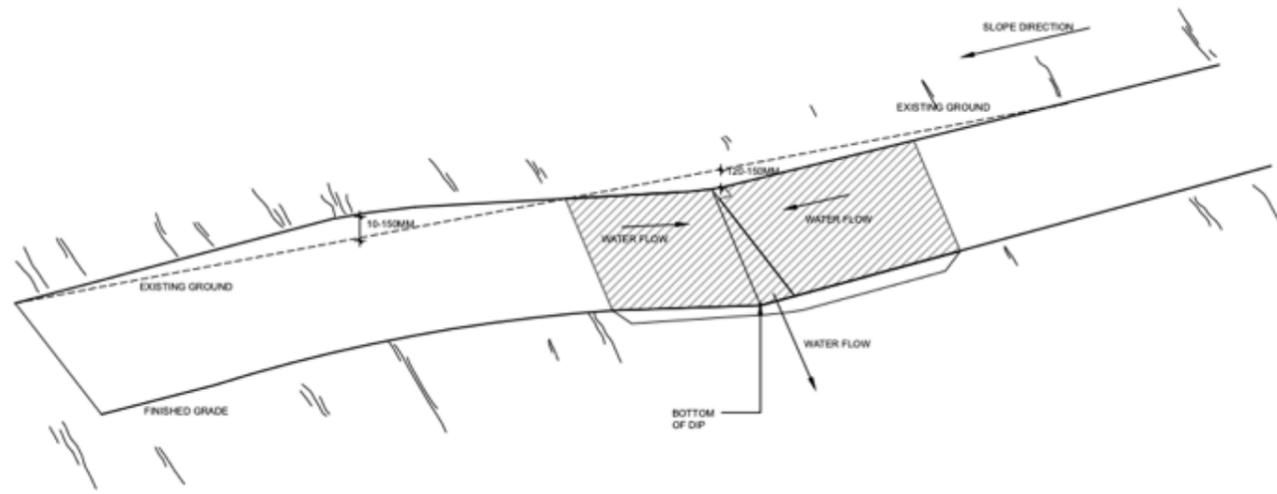


FIGURE 7
GRADE REVERSAL
 PERSPECTIVE
 SCALE 1:40

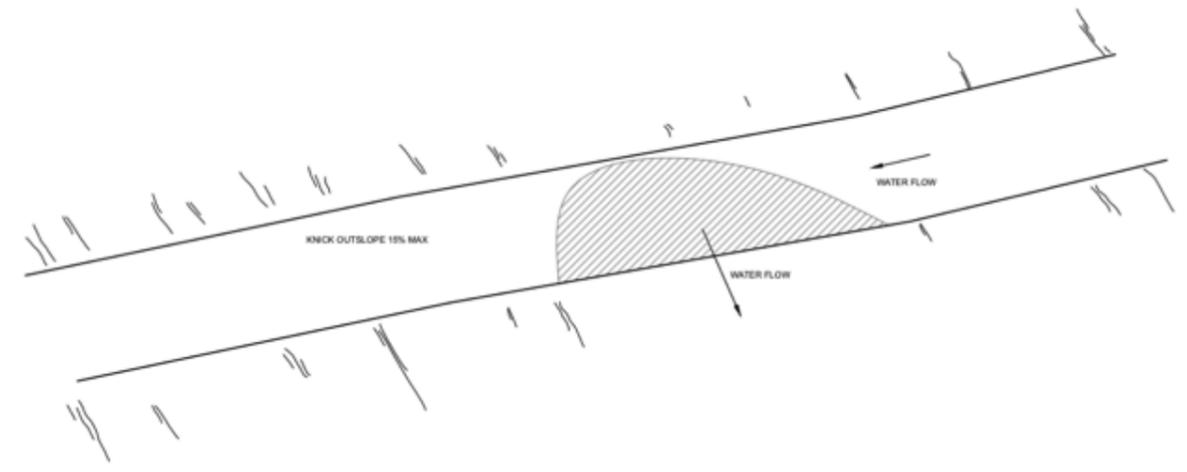


FIGURE 9
KNICK
 PERSPECTIVE
 SCALE 1:40

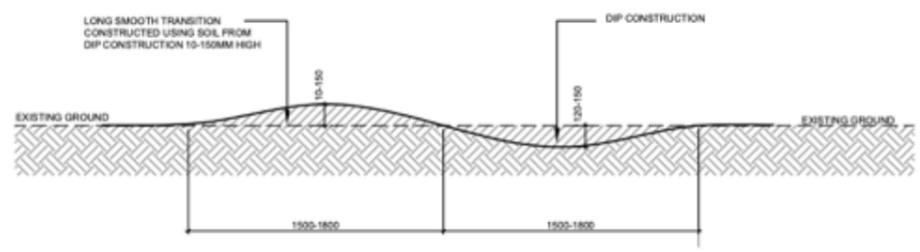


FIGURE 8
GRADE REVERSAL
 SECTION
 SCALE 1:40

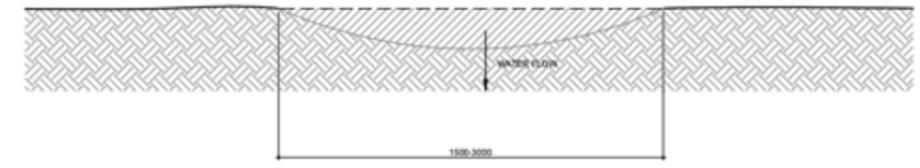


FIGURE 10
KNICK SECTION
 SECTION
 SCALE 1:40

8.3 Sample Sign Styles

Trailhead Signs



Trailhead signs can be basic or elaborate as long as they provide important information that informs the user and covers the land manager.



Minor trailhead signs and trail markers provide navigational assistance and trail classification information within the trail network.

8.4 IMBA Trail Classifications

	Very Easy  White Circle	Easy  Green Circle	Intermediate  Blue Square	Advanced  Black Diamond	Extreme  Double Black Diamond
Description	Likely to be a fire road or wide singletrack with a gentle gradient, smooth surface and free of obstacles. Frequent encounters are likely with other cyclists, walkers, runners and horse riders.	Likely to be a combination of fire road or wide singletrack with a gentle gradient, smooth surface and relatively free of obstacles. Short sections may exceed these criteria. Frequent encounters are likely with other cyclists, walkers, runners and horse riders	Likely to be a single trail with moderate gradients, variable surface and obstacles.	Likely to be a challenging single trail with steep gradients, variable surface and many obstacles. Single use and direction Optional lines XC, DH or trials	Extremely difficult trails will incorporate very steep gradients, highly variable surface and unavoidable, severe obstacles. Single use and direction Optional lines XC, DH or trials
Trail Width	2100mm plus or minus 900mm	2100mm plus or minus 900mm	600mm plus or minus 300mm for tread or bridges.	300mm plus or minus 150mm for tread and bridges. Structures can vary	150mm plus or minus 100mm for tread or bridges. Structures can vary
Trail Surface	Hardened or smooth	Mostly firm and stable	Possible sections of rocky or loose tread.	Variable and challenging.	Widely variable and unpredictable
Average Trail Gradient	Climbs and descents are mostly shallow. Less than 5% average.	Climbs and descents are mostly shallow, but may include some moderately steep sections. 7% or less average.	Mostly moderate gradients but may include steep sections. 10% or less average.	Contains steeper descents or climbs. 20% or less average.	Expect prolonged steep, loose and rocky descents or climbs. 20% or greater average
Maximum Trail Grade	Max 10%	Max 15%	Max 20% or greater	Max 40% or greater	Max 40% or greater
Level of Trail Exposure	Firm and level fall zone to either side of trail corridor	Exposure to either side of trail corridor includes downward slopes of up to 10%	Exposure to either side of trail corridor includes downward slopes of up to 20%	Exposure to either side of trail corridor includes steep downward slopes or freefall	Exposure to either side of trail corridor includes steep downward slopes or freefall
	No obstacles	Unavoidable obstacles to 50mm (2") high, such as logs, roots and rocks. Avoidable, rollable obstacles may be present. Unavoidable bridges 900mm wide. Short sections may exceed criteria.	Unavoidable, rollable obstacles to 200mm (8") high, such as logs, roots and rocks. Avoidable obstacles to 600mm may be present. Unavoidable bridges 600mm wide. Width of deck is half the height. Short sections may exceed criteria.	Unavoidable obstacles to 380mm (15") high, such as logs, roots, rocks, drop-offs or constructed obstacles. Avoidable obstacles to 1200mm may be present. Unavoidable bridges 600mm wide. Width of deck is half the height. Short sections may exceed criteria.	Large, committing and unavoidable obstacles to 380mm (15") high. Avoidable obstacles to 1200mm may be present. Unavoidable bridges 600mm or narrower. Width of bridges is unpredictable. Short sections may exceed criteria.

8.5 Glossary

- A Line:** A section of a trail that is the hardest or most challenging. Usually the fastest route through a section. A B line usually accompanies a B Line when referred to.
- Anchor:** Natural or placed barrier to reinforce trail flow and reduce trail straightening.
- B Line:** A section of a trail that accompanies an A Line. The B Line is easier alternative to an Aline and usually the slower but safer option.
- Back slope:** The back cut or batter of a bench cut trail.
- Base Course:** The layer or layers of specified material of designed thickness placed on a trailbed to support surfacing.
- Berm:** The ridge of material formed on the outer edge of the trail that projects higher than the tread.
- Bridge:** A trail structure, including supports, erected over a depression or obstruction such as a body of water, a road, a trail, or a railroad that provides a continuous pathway and that has a deck for carrying traffic or other loads.
- Chute:** A very steep section of trail. Near vertical. Usually with a gentle entrance and exit.
- Clearing Limit:** The area over and beside the trail that is cleared of trees, limbs, and other obstructions.
- Climbing Turn:** A reverse in direction of trail grade without a level landing used to change elevation on a steep slope.
- Compacted:** Consolidation that is obtained by tamping or rolling suitable material until no noticeable displacement of material is observed.
- Crib Wall:** A stone wall built to support a section of trail or a berm on steep ground/side slope.
- Culvert:** Any structure with a bottom, regardless of the fill depth, the depth of invert, or the presence of a horizontal driving surface, or any bottomless (natural channel) structure with footings that does not have wheel loads in direct contact with the top of the structure.
- De berm:** Removing the ridge of material formed on the outer edge of the trail that projects higher than the tread for drainage.
- Embankment:** A structure of suitable material placed on the prepared ground surface and constructed to the trailbed elevation.

- Fall line:** Fall line trails follow the shortest route up or down a hill. Fall line trails become gullies funnelling water which strips the trail of its tread and creates deep ruts that are almost impossible to maintain.
- Filter:** A filter is the first technical trail feature riders will encounter on a trail. The intention of the filter is to clearly inform riders of the characteristics and technical difficulty of that trail before they start riding it.
- Full Bench:** Trailbed constructed entirely on undisturbed material.
- Fibre Reinforced Plastic (FRP):** Composite product used in lieu of timber
- Gap Jump:** A jump with a gap or void between the take-off and landing.
- Grade:** The vertical distance of ascent or descent of the trail expressed as a percentage of the horizontal distance.
- GPS :** Geographically/global positioning system.
- Hazard Tree:** An unstable tree that causing a hazard to trail users.
- IMBA:** International Mountain Bike Association
- Inslope:** Where the trails tread is sloped downward toward the backslope.
- Nick:** A nick is a shaved down section of trail, semicircular in shape and about three metres in diameter, with the centre of the nick outsloped at about 15 percent to draw the water off the trail. There must be lower ground next to the trail for the nick to be effective.
- Outslope:** Where the trail tread is sloped downward toward the embankment or daylight side of the trail tread.
- Pump Track:** A continuous loop of dirt berms and 'rollers' (smooth dirt mounds) that you ride without pedalling.
- Rollers:** Smooth Dirt Mounds.
- Rolling Grade Dip (RGD):** A long gentle soil ramp and depression.
- Rock Armouring:** Hardening the trailbed using stone.
- Rock Drop:** A drop off is a feature where the level of the trail surface changes abruptly, usually with a vertical drop between the two levels.
- Sideslope:** The natural slope of the ground, usually expressed as a percentage.
- Surfacing:** Material placed on top of the trailbed or base course that provides the desired tread.
- Switchback:** A reverse in direction of trail grade with a level landing used to change elevation on a steep slope, usually involving special treatment of the approaches, crib wall and drainages.

Table Top Jump: A flat topped jump with no gap between the take-off and landing ramp.

TDRS: IMBA technical difficulty rating system

Trailbed: The finished surface on which base course or surfacing may be constructed. For trails without surfacing the trailbed is the tread.

Tread: The surface portion of the trail upon which traffic moves.

Technical Trail Feature (TTF): Objects that have been introduced to a trail to add technical challenge.

Water Courses: Any natural or constructed channel where water naturally flows or will collect and flow during spring runoff, rainstorms, etc.

Wiggles: A term used to describe the meandering and twisting shape of a trail.